

## CLAIMS

1. A valve assembly comprising:
  - a replacement valve; and
  - a collapsible and expandable anchoring structure;
    - said anchoring structure being dimensioned to extend longitudinally from an attachment location near the inflow annulus of a valve sinus to an attachment location within a sinus cavity; and
    - said anchoring structure further comprising a flared inflow rim, a flared outflow rim, and a plurality of vertical elements extending from the inflow rim to the outflow rim.
2. The valve assembly of claim 1, wherein said valve is positioned internally to said anchoring structure.
3. The valve assembly of claim 2, wherein said valve comprises an inflow annulus, an outflow annulus and a plurality of leaflets.
4. The valve assembly of claim 3, wherein said inflow annulus is scalloped.
5. The valve assembly of claim 1, wherein said flared inflow rim comprises one or more rings configured in an undulating pattern.
6. The valve assembly of claim 1, wherein said flared outflow rim comprises diamond and hexagon shaped structures.
7. The valve assembly of claim 1, wherein said vertical elements are configured to coincide longitudinally with the sinus commissural posts.